

Crucible Steel CSM® 6 Tool Steel, AISI A6

Category : Metal , Ferrous Metal , Tool Steel , Air-Hardening Steel

Material Notes:

CSM 6 is an air hardening tool steel offering moderate wear resistance and toughness. It may be hardened from a low hardening temperature for easy heat treatment. Information provided by Crucible Industries

Order this product through the following link:

http://www.lookpolymers.com/polymer_Crucible-Steel-CSM-6-Tool-Steel-AISI-A6.php

Physical Properties	Metric	English	Comments
Density	7.83 g/cc	0.283 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Brinell	217 - 248	217 - 248	
Hardness, Rockwell C	48	48	hardened at 1855°F then tempered
	@Tempering Temp. 538 °C	@Tempering Temp. 1000 °F	
	50	50	hardened at 1855°F then tempered
	@Tempering Temp. 482 °C	@Tempering Temp. 900 °F	
	52	52	hardened at 1855°F then tempered
	@Tempering Temp. 427 °C	@Tempering Temp. 800 °F	
	54	54	hardened at 1855°F then tempered
	@Tempering Temp. 371 °C	@Tempering Temp. 700 °F	
	55	55	hardened at 1855°F then tempered
	@Tempering Temp. 316 °C	@Tempering Temp. 600 °F	
	56	56	hardened at 1855°F then tempered
	@Tempering Temp. 260 °C	@Tempering Temp. 500 °F	
	58	58	hardened at 1855°F then tempered
	@Tempering Temp. 204 °C	@Tempering Temp. 400 °F	
	60	60	hardened at 1855°F then tempered
	@Tempering Temp. 149 °C	@Tempering Temp. 300 °F	

Mechanical Properties	^{SI} Metric	^{SI} English	Comments
	@Tempering Temp. 93.3 °C	@Tempering Temp. 200 °F	hardened at 1855 F then tempered
Modulus of Elasticity	207 GPa	30000 ksi	
Charpy Impact	36.6 J	27.0 ft-lb	austenitized at 1550°F then tempered; C-notch
	@Tempering Temp. 149 °C	@Tempering Temp. 300 °F	
	59.7 J	44.0 ft-lb	austenitized at 1550°F then tempered; C-notch
	@Tempering Temp. 204 °C	@Tempering Temp. 400 °F	
	81.3 J	60.0 ft-lb	austenitized at 1550°F then tempered; C-notch
	@Tempering Temp. 260 °C	@Tempering Temp. 500 °F	
	90.8 J	67.0 ft-lb	austenitized at 1550°F then tempered; C-notch
	@Tempering Temp. 316 °C	@Tempering Temp. 600 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	11.9 µm/m-°C	6.60 µin/in-°F	
	@Temperature 20.0 - 93.3 °C	@Temperature 68.0 - 200 °F	
	12.4 µm/m-°C	6.90 µin/in-°F	
	@Temperature 20.0 - 204 °C	@Temperature 68.0 - 400 °F	
	13.0 µm/m-°C	7.20 µin/in-°F	
	@Temperature 20.0 - 316 °C	@Temperature 68.0 - 600 °F	
	13.5 µm/m-°C	7.50 µin/in-°F	
	@Temperature 20.0 - 427 °C	@Temperature 68.0 - 800 °F	
	13.9 µm/m-°C	7.70 µin/in-°F	
	@Temperature 20.0 - 538 °C	@Temperature 68.0 - 1000 °F	
Thermal Conductivity	2.59 - 2.74 W/m-K	18.0 - 19.0 BTU-in/hr- ft²-°F	

Component Elements Properties	Metric	English	Comments
Carbon, C	0.70 %	0.70 %	

Component Elements Properties	Metric	English	Comments
Iron, Fe	94.65 %	94.65 %	as balance
Manganese, Mn	2.0 %	2.0 %	
Molybdenum, Mo	1.35 %	1.35 %	
Silicon, Si	0.30 %	0.30 %	

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